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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,914	01/24/2006	Jinder Jow	62768A	8066

35503 7590 07/03/2006

UNION CARBIDE CHEMICALS AND PLASTICS TECHNOLOGY CORPORATION
P.O. BOX 1967
MIDLAND, MI 48674

EXAMINER	
MAYO III, WILLIAM H	

ART UNIT	PAPER NUMBER
2831	

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/565,914	JOW ET AL.	
	Examiner	Art Unit	
	William H. Mayo III	2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for domestic priority under 35 U.S.C. 120 and provisional priority under 35 USC 119(e). The Continuation Case being filed in the National PCT/US05/15618, filed May 5, 2005 and the provisional application being filed 5/5/2004, as Application No. 60/568,317.

Drawings

2. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because it contains the phrases "it has been surprisely found" in lines 1 & 4, which is improper language for the abstract. The applicant is required to delete the terms to provide the abstract with proper language. Correction is required. See MPEP § 608.01(b).

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
(f) BACKGROUND OF THE INVENTION.
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

(a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

(b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.

(c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.

(d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).

(e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.

(f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:

(1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject

matter of the claimed invention. This item may also be titled "Technical Field."

(2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

(g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

(h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

(i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

(j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation.

There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

(k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

(l) Sequence Listing, See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

5. The disclosure is objected to because of the following informalities: The specification lacks the proper headings as detailed above. The applicant is required to provide the specification with the proper headings to provide the specification with clarity.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Tornmalm (WO Pat Num 98/02889). Tornmalm discloses a flame retardant cable (Fig

1) that provides a combination of good mechanical, thermal, and electrical properties, wherein the cable doesn't comprise any halogens and thus can be produced at a low price (abstract). Specifically, with respect to claim 1, Tornmalm discloses a cable (1) comprising an insulated conductor (2) comprising a conductor (3), an inner insulation layer (5) surrounding the conductor (3) and an outer insulation layer (6) surrounding the inner insulation layer (5), wherein the insulated conductor (2) has a composite dielectric constant less than or equal to 2.6 and a composite dissipation factor less than or equal to 0.005 and wherein the outer insulation layer (6) is made of polyethylene, polypropylene, ethylene/vinyl acetate, or ethylene/acrylic acid, all of which has a dielectric constant of greater than 2.6 (Page 5, lines 1-16, i.e. the materials of the inner and outer insulation layers are material disclosed by the applicant as providing the specific characteristics of dielectric constant and dissipation factors, and thus inherently disclose the specific characteristics as claimed). With respect to claim 2, Tornmalm discloses a cable (1) comprising an insulated conductor (2) comprising a conductor (3), an inner insulation layer (5) surrounding the conductor (3) and an outer insulation layer (6) surrounding the inner insulation layer (5), wherein the insulated conductor (2) has a composite dielectric constant less than or equal to 2.6 and a composite dissipation factor less than or equal to 0.005 and wherein the outer insulation layer (6) is made of polyethylene, polypropylene, ethylene/vinyl acetate, or ethylene/acrylic acid, all of which has a dielectric constant of greater than 2.6 (Page 5, lines 1-16, i.e. the materials of the inner and outer insulation layers are material disclosed by the applicant as providing the specific characteristics of dielectric constant and dissipation factors, and thus inherently

disclose the specific characteristics as claimed) and wherein the inner insulation layer (5) is made of a first non halogenated polymer free of halogenated flame retardant additives and the outer insulation layer (6) being a second non halogenated polymer free of halogenated flame retardant additives (abstract).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

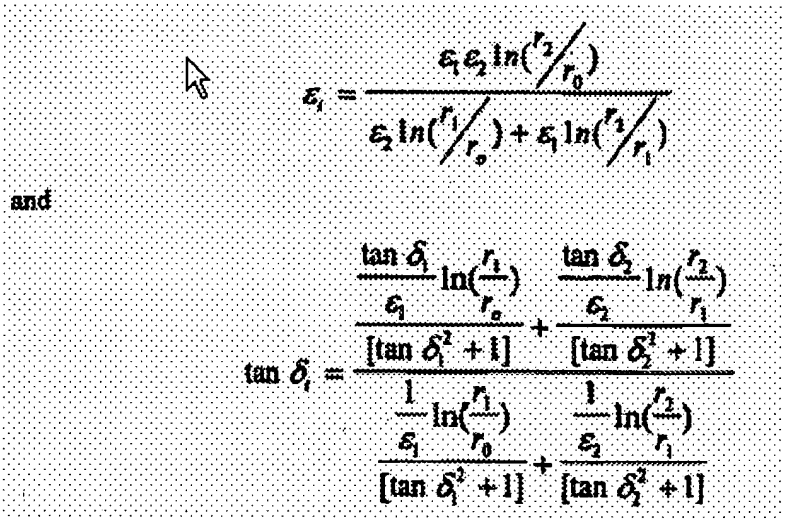
9. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tornmalm (WO Pat Num 98/02889). Tornmalm discloses a flame retardant cable (Fig 1) that provides a combination of good mechanical, thermal, and electrical properties, wherein the cable doesn't comprise any halogens and thus can be produced at a low price (abstract), as detailed above with respect to claim 2. Specifically, with respect to claim 3, Tornmalm discloses that the first polymeric material (5) comprises non halogenated flame retardant additives, such as calcium carbonate (Page 4, lines 22-28), in the amount of no more than 30 parts (i.e. may be 20-30, Page 4, lines 6-13) per hundred parts of the first non halogenated polymer by weight (ethylene copolymer) and a second polymeric composition (6) comprising second non halogenated flame retardant additives (Page 5, lines 17-21), being substantially free of halogenated flame retardant additives, such as calcium carbonate (Page 4, lines 22-28). With respect to claim 4, Tornmalm discloses that the non-halogenated flame retardant additives may comprise calcium carbonate (Page 4, lines 22-28). With respect to claim 5, Tornmalm discloses that the insulated conductor (2) has two layer which have a composite dielectric constant (ε_1) and a composite dissipation factor ($\tan \delta_t$) defined by the following:



$$\varepsilon_t = \frac{\varepsilon_1 \varepsilon_2 \ln(r_2/r_0)}{\varepsilon_2 \ln(r_1/r_0) + \varepsilon_1 \ln(r_2/r_1)}$$

and

$$\tan\delta_t = \frac{\frac{\tan\delta_1}{\varepsilon_1}\ln(\frac{r_1}{r_0})}{[\tan\delta_1^2+1]} + \frac{\frac{\tan\delta_2}{\varepsilon_2}\ln(\frac{r_2}{r_1})}{[\tan\delta_2^2+1]} \Big/ \frac{\frac{1}{\varepsilon_1}\ln(\frac{r_1}{r_0})}{[\tan\delta_1^2+1]} + \frac{\frac{1}{\varepsilon_2}\ln(\frac{r_2}{r_1})}{[\tan\delta_2^2+1]}$$

wherein (ε_1) and (ε_2) are dielectric constants of the inner and outer insulation layers (5 & 6) respectively, and r_o is the radius of the conductor (2), r_1 is the sum of r_o and the thickness of the inner insulation layer (5), r_2 is the sum of r_1, plus the thickness of the outer insulation layer, and wherein ($\tan\delta_t$) and ($\tan\delta_t$) are the dissipation factors of the inner and outer insulation layers (5 & 6) respectively (Page 5, lines 1-16, i.e. the materials of the inner and outer insulation layers are material disclosed by the applicant as providing the specific characteristics of dielectric constant and dissipation factors, and thus inherently disclose the specific characteristics as claimed).

However, Tornmalm doesn't specifically disclose the second polymeric composition comprising flame retardant additives in the amount of between 100-300 parts per hundred (claim 3).

With respect to claim 3, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the second polymeric composition of Tornmalm to flame retardant additives in the amount of between 100-300 parts per hundred, since it has been held that where the general conditions of a claim are

disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller, 105 USPQ 233.*

12. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tornmalm (WO Pat Num 98/02889) in view of Gagnon (Pub Num 2003/0019655). Tornmalm discloses a flame retardant cable (Fig 1) that provides a combination of good mechanical, thermal, and electrical properties, wherein the cable doesn't comprise any halogens and thus can be produced at a low price (abstract), as detailed above with respect to claim 1.

However, Tornmalm doesn't specifically disclose the inner insulation layer, the outer insulation layer, or both insulation layers being foamed (claim 6), nor the cable comprising four twisted pairs of insulated conductors, wherein the cable comprises a plenum rated jacket material (claim 7).

Gagnon teaches an electrical cable (Figs 4a-4b) which increases the dielectric strength and protects the cable from possible transmission performance deterioration due to exposure to high temperature and relative humidity, and also reduces cost (paragraph 18, 23, and 24). Specifically, with respect to claim 6, Gagnon teaches a cable (Fig 4a) comprising a conductor (43) comprising an inner insulation layer (not number), that may be polyethylene (paragraph 53), and an outer insulation layer (40), wherein the outer insulating layer (40) may be foamed (paragraph 62). With respect to claim 7, Gagnon teaches that the cable (Fig 4b) comprises four twisted pairs of insulated conductors (43), wherein the cable (Fig 4b) comprises a plenum rated jacket material (41, paragraph 64, Category 5 cables must be plenum rated).

With respect to claims 6-7, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the flame retardant cable of Tornmalm to comprise the foamed and jacket configuration as taught by Gagnon because Gagnon teaches that such a configuration provides electrical cable (Figs 4a-4b) which increase the dielectric strength and protects the cable from possible transmission performance deterioration due to exposure to high temperature and relative humidity, and also reduces cost (paragraph 18, 23, and 24).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Adriaenssens et al (Pat Num 5,162,609), Hudson (Pat Num 6,255,594), Caimi (Pat Num 6,803,517), Gingue et al (Pat Num 5,670,748), Mottine, Jr et al (Pat Num 6,392,152), Gagnon (Pat Num 5,841,072), Wessels (Pat Num 5,462,803), Garner (Pat Num 3,378,628), Brueckner et al (DE 4300795).

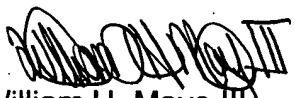
Communication

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William H. Mayo III
Primary Examiner
Art Unit 2831

WHM III
June 20, 2006